Nebraska

Biobased Fuels, Power, and Products State Fact Sheet

Growing a Cleaner, Stronger Economy in Nebraska

In 1999, approximately 11,000 MWh of electricity generated in Nebraska came from biomass sources, with wood and wood waste providing 0.6 percent of the state's energy needs. Ethanol is the greatest biomass energy resource that the state utilizes. Nebraska ranks third in the country in ethanol production. The state is home to six facilities with total production capacity of 389 million gallons of ethanol per year and two more facilities currently under construction. In an average year, about 20% of the state's corn crop and the equivalent of 75 percent of the state's grain sorghum crop provide the biomass material for ethanol production. There are also over 16,000 E85 and E95 vehicles in the state.

Ethanol production innovations continue to be a focal point of the Nebraska ethanol development program. To encourage construction of new facilities, Nebraska offers an 18 cents-per-gallon tax credit for new ethanol production facilities in the state. Nebraska was also the driving force behind the creation of the Governor's Ethanol Coalition, a 29-member organization that supports the production of ethanol from corn or other domestic renewable resources, whose headquarters are located in Lincoln.

In Blair, Nebraska, Cargill-Dow has a corn processing refinery that produces up to 100 million gallons of ethanol annually, and uses biogas to meet a portion of the energy required for the corn processing. In a new venture at the site, Cargill-Dow is developing a variety of bioproducts - such as fiber for apparel and carpets from process streams in the plant. Omaha's Public Power District is operating a new methane gas power plant which uses decomposing garbage to generate up to 25 million kwh of electricity a year, which is enough to power more than 2,000 homes. (cont'd)

Biobased Fuels, Power, and Products in Nebraska

Bio-Industry	Sales ($1,000)	Employees	Capacity	Number of Facilities
Power	N/A	810	4 MW	5
Fuels	101,900	527	389 Mgy	7
Products	14,859	32	- -	3

N/A - no information available

- - Comparative capacity data not available among products

Federal R&D Partners

Agricultural Research Service (Lincoln)

Nebraska Agricultural Research Center (Lincoln)

Nebraska State Energy Office (Lincoln)

Renewable Products Development Labs (Lincoln)

University of Nebraska (Lincoln and Mead)

Biomass Resources

Corn: 8,100,000 acres planted
1,139,250,000 bushels produced

Soybeans: 4,950,000 acres planted
222,950,000 bushels produced

Wheat: 1,750,000 acres planted
59,200,000 bushels produced

CRP: 1,083,638 acres enrolled

MSW: 1,848,000 tons generated

Forest Land: 947,000 acres

Poultry: 15,050,000 head

Livestock: 9,300,000 head

A considerable number of research activities related to bioenergy and biobased products are currently underway in Nebraska. The U.S. Department of Energy is collaborating with the University of Nebraska to study the implications of using corn stalks for biofuels. The U.S. Department of Agriculture is studying bioprocessing of raw agricultural materials as feedstock for biobased products.

Federally Funded Biomass RD&D in Nebraska

U.S. Department of Agriculture

- Economic Evaluation of Switchgrass Grown as a Bioenergy Crop in the Central and Northern Plains
- Nitrogen Management Associated with Using Corn Stalks as a Biofuel Source
- Ecophysiology of Corn
- Starch Technology: Production, Characterization, and Utilization Marketing and Delivery of Quality Cereals and Oilseeds
- Integrated Weed Management in Reduced Tillage Systems in Low Rainfall Environments
- Soil Health as an Indicator of Sustainable Management
- Process Intensification and Utilization of Low Value Feedstocks for Production of Industrial Fatty Acid Derivatives
- Regulation of Photosynthetic Processes
- Management for Sustained Production of Perennial Warm-Season Grasses
- Genetic Improvement of Switchgrass for Agronomic and Biomass Fuel Production Traits
- Studies on the Physiological Mechanisms Which Improve N Uptake & Use Efficiency in Corn, Sorghum, & Wheat
- Characterizing Nitrogen Mineralization and Availability in Crop Systems to Protect Water Resources
- Ecosystem Consequences of Woody Species Establishment in the Great Plains
- Development of Profitable Reduced Herbicide Weed Management Systems Through Integration of Management Practices
- Climate Change and the Winter Wheat Agroecocystem: Experiments and Modeling
- Characterizing Weed Population Variability for Improved Weed Management Decision Support Systems to Reduce Herbicide Use
- Studies of Drought & Defoliation Effects on Range Grasses Needed to Optimize Future Grazing Research
- Ecology and Management of Diabrotica Species
- Dynamic Nitrogen Management Strategies for Optimizing Maize Yield and N Use Efficiency
- Dynamic Soybean Insect Management for Emerging Agricultural Technologies and Variable Environments

U.S. Department of Energy

- Western Regional Biomass Energy Program
- Facilitate Development and Deployment of Cost-Effective Bioenergy Technologies
- Education Activities with the Governors' Ethanol Coalition

For additional information on RD&D Projects, please click on the project title.

For additional information on state activities, please contact:

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Data sources and the data collection methodology for the "Biobased Fuels, Power, and Products State Profiles" are available at http://www.bioproducts-bioenergy.gov/.